

CLAIMS

We claim:

1. A system for terminating bearer paths and signaling links with a common
5 integrated media and signaling gateway, comprising:
a single physical media carrying at least one bearer path and at least one
signaling link; and
an integrated media and signaling gateway operatively connected to the
physical media, the integrated media and gateway being a termination for both
10 the bearer path and the signaling link.
2. The system according to claim 1, wherein the system further comprises at least
one call controller operatively connected to the integrated media and signaling
gateway, and a point code cloning scheme for transparently forwarding a
15 signaling message, which is received on the signaling link, to the at least one
call controller.
3. The system according to claim 1, wherein the system further comprises a
plurality of call controllers operatively connected to the integrated media and
20 signaling gateway, and a point code cloning scheme for transparently
forwarding a signaling message, which is received on the signaling link, to a
selected call controller of the plurality of call controllers.
4. The system according to claim 1, wherein the system further comprises
25 signaling on the incoming signaling links to the integrated media and signaling

gateway is at least one of TDM based narrowband signaling and ATM based broadband signaling.

5. The system according to claim 4, wherein the signaling link is an SS7 signaling link, wherein the integrated media and signaling gateway has a signaling processing unit, and wherein the signaling processing unit converts the at least one of TDM based narrowband signaling and ATM based broadband signaling to IP based network signaling with M3UA (MTP3 User Adaption Layer).

6. A system for terminating bearer paths and signaling links with a common integrated media and signaling gateway, comprising:
- a single media carrying at least one bearer path in a bearer logical channel and at least one signaling link in a signaling logical channel;
 - an integrated media and signaling gateway having a bearer processing unit that is a termination for the bearer logical channel and a signal processing unit that is a termination for the signaling logical channel;
 - a network operatively connected to the bearer processing unit, the network having network elements, the network elements having respectively assigned thereto point codes according to a point code cloning scheme; and
 - at least one call controller operatively connected to the signal processing unit, the call controller having assigned thereto a point code according to the point code cloning scheme.

7. The system according to claim 6, wherein the point code cloning scheme effects a transparent forwarding of a signaling message, which is received on the signaling link, to the call controller.
- 5 8. The system according to claim 6, wherein the system further comprises a plurality of call controllers operatively connected to the integrated media and signaling gateway, and a point code cloning scheme for forwarding a signaling message, which is received on the signaling link, to a selected call controller of the plurality of call controllers.
- 10 9. The system according to claim 6, wherein incoming signaling to the integrated media and signaling gateway is at least one of TDM based narrowband signaling and ATM based broadband signaling.
- 15 10. The system according to claim 9, wherein the signaling processing unit converts the at least one of TDM based narrowband signaling and ATM based broadband signaling to IP based network signaling with M3UA.
11. A method for terminating bearer paths and signaling links with a common
n integrated media and signaling gateway, comprising:
20 carrying, on a single physical media, at least one bearer path and at least one signaling link; and
terminating the bearer paths and the signaling links with a common integrated media and signaling gateway.

12. The method according to claim 11, wherein at least one call controller is
operatively connected to the integrated media and signaling gateway, and
wherein the method further comprises using a point code cloning scheme for
transparently forwarding a signaling message, which is received on the
5 signaling link, to the at least one call controller.
13. The method according to claim 11, wherein a plurality of call controllers is
operatively connected to the integrated signaling gateway, and wherein the
method further comprises using a point code cloning scheme for transparently
10 forwarding a signaling message, which is received on the signaling link, to a
selected call controller of the plurality of call controllers.
14. The method according to claim 11, wherein signaling on the incoming
signaling link to the integrated signaling gateway is at least one of TDM based
15 narrowband signaling and ATM based broadband signaling.
15. The method according to claim 14, wherein the method further comprises
converting the at least one of TDM based narrowband signaling and ATM
based broadband signaling to IP based network signaling with M3UA.

16. A method for terminating bearer paths and signaling links with a common integrated media and signaling gateway, comprising:

carrying, on a single physical media, at least one bearer path and at least one signaling link; and

5 terminating the bearer paths and the signaling links with a common integrated media and signaling gateway;

cloning, with a point code cloning scheme, a point code that is respectively assigned to at least one call controller that is operatively connected to the gateway, and cloning further point codes that are assigned to network
10 elements in a network that is operatively connected to the gateway; and

transparently forwarding, via the point code cloning scheme, a signaling message between the network elements in the network and the call controller.

17. The method according to claim 16, wherein a plurality of call controllers are
15 operatively connected to the gateway, and wherein the method further comprises transparently forwarding the signaling message to a selected call controller of the plurality of call controllers.

18. A system for terminating bearer paths and SS7 signaling links with a common integrated media and signaling gateway, comprising:

a single media carrying at least one bearer path in a bearer logical channel and at least one signaling link in a signaling logical channel;

5 an integrated media and signaling gateway having a bearer processing unit that is a termination for the bearer logical channel and a signal processing unit that is a termination for the signaling logical channel;

a signaling message, which is received by the integrated media and signaling gateway via the signaling link, being at least one of TDM based narrowband signaling
10 and ATM based broadband signaling;

the signaling processing unit being a termination for the signaling links on the at least one of TDM based narrowband signaling and ATM based broadband signaling, the integrated media and signaling gateway containing an SS7 signaling stack, and the integrated media and signaling gateway being a termination for the SS7
15 signaling stack;

the bearer processing unit being a termination for the bearer path, the integrated media and signaling gateway containing an bearer stack, and the integrated media and signaling gateway being a termination for the bearer stack;

a network operatively connected to the bearer processing unit, the network
20 having network elements, the network elements having respectively assigned thereto point codes according to a point code cloning scheme; and

at least one call controller operatively connected to the signal processing unit, the call controller having assigned thereto a point code according to the point code cloning scheme.

19. The system according to claim 18, wherein the point code cloning scheme effects a transparent forwarding of an SS7 signaling message, which is received on the SS7 signaling link, to the call controller.

5 20. The system according to claim 18, wherein the system further comprises a plurality of call controllers operatively connected to the integrated media and signaling gateway, and a point code cloning scheme for forwarding a signaling message, which is received on the signaling link, to a selected call controller of the plurality of call controllers.

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21. The system according to claim 18, wherein the signaling processing unit converts the at least one of TDM based narrowband signaling and ATM based broadband signaling to IP based network signaling with M3UA.

15 22. The system according to claim 18, wherein the gateway receives SS7 signaling using MTP as transport over the signaling link, and wherein the signaling processing unit terminates the SS7 signaling stack up to an MTP3 layer.

20 23. The system according to claim 18, wherein the gateway receives SS7 signaling using MTP as transport over the signaling link, and wherein the bearer processing unit terminates the bearer stack up to a voice encoding layer.